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10/681,238	10/09/2003	Jason Dirk Rusmisel	ALC 3092	6559

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/681,238	RUSMISEL ET AL.
	Examiner	Art Unit
	Jason E. Mattis	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 10/1/07.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed 10/1/07. Due to the amendments, the previous claim objections have been withdrawn. Also, due to the amendments, the previous drawing objection has been withdrawn. Claims 1-14 are currently pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 and 9-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lau et al. (U.S. Pat. 7093160 B2).

With respect to claim 1, Lau et al. discloses in a node of a telecommunications network comprising redundant processor modules with one module being an active module and another module being an inactive module of maintaining a method of maintaining the inactive module in hot standby mode with the active module **(See the abstract, column 4 lines 7-31, and Figure 1 of Lau et al. for reference to a router**

10, which is a node of a telecommunications network, comprising and active MPLS control card 12 and a standby MPLS control card 14, which are redundant processor modules, and for reference to a method of implementing protocol redundancy to maintain the standby card 14 in a hot-standby mode with the active card 12). Lau et al. also discloses each redundant routing processor including a primary control processor, a run time control processor, a message processor and a distributed layer processor **(See column 5 lines 6-55 and Figure 2 of Lau et al. for reference to the both the active and standby control cards including a MPLS Core LDP and RSVP-TE 118, which is a primary control processor, a policy control module 108, which is a run time control processor, flow classifier 130 IP, forwarder 132 and label forwarder 134, which together act as a message processor, and routing manager 122, IP routing database 124, forwarding information base look up table 126, and IP, UDP and TCP 127, which together act as a distributed layer processor).** Lau et al. further discloses coordinating operations of the run time control processors, the message processors, and the distributed layer processors, with the primary control processors **(See column 5 lines 6-55 and Figure 2 of Lau et al. for reference to each of the devices 108, 122, 124, 126, 128,130, 132, and 134 being connected to and coordinated through the MPLS Core LAD RSVP-TE 118).** Lau et al. also discloses allocating resources between the message processors and the distributed layer processors with the run time control processors **(See column 3 lines 54-67, column 5 lines 26-27 and Figure 2 of Lau et al. for reference to the policy control module 108 controlling allocation of resources for**

devices through the use of a resource reservation protocol). Lau et al. further discloses sending only a status affecting message affecting the status from the active module to the inactive module and updating the inactive module in response to the status affecting message **(See column 4 lines 32-54 and column 5 line 56 to column 6 line 7 of Lau et al. for reference to sending update data including connection state data, which is status affecting data, from the active card 12 to the standby card 14 and for reference to the standby card 14 being updating in accordance with the update data to mirror the active card 12).**

With respect to claim 2, Lau et al. discloses the active module holding the connection by exchanging signaling messages **(See column 3 lines 32-48 and column 4 lines 7-15 of Lau et al. for reference to the active card 12 holding connections by exchanging MPLS signaling messages with other routers of the network).** Lau et al. also discloses the active module filtering out only the status affecting messages and sending a synchronization message to the inactive module containing information on how the status of the connection has been changed **(See column 4 lines 32-54 and column 5 line 56 to column 6 line 7 of Lau et al. for reference to filtering messages to send only status affecting messages to the standby card 14, i.e. blocking timer event messages from the standby card 14, and for reference to sending update data in a synchronization message to the standby card 14).**

With respect to claim 3, Lau et al. discloses the active module holding routing information, making decisions based on the signaling messages, and updating the routing information **(See column 3 lines 32-48 and column 4 lines 7-15 of Lau et al.**

for reference to the active card 12 making routing decision based on stored routing table information and for reference to the active card 12 updating the routing table). Lau et al. also discloses the active module sending the synchronization message to the inactive module **(See column 4 lines 32-54 and column 5 line 56 to column 6 line 7 of Lau et al. for reference to sending update data in a synchronization message to the standby card 14).**

With respect to claim 9, Lau et al. discloses in a node of a telecommunications network comprising redundant MPLS processor modules with one module being an active module and another module being an inactive module of maintaining a method of maintaining the inactive module in hot standby mode with the active module **(See the abstract, column 4 lines 7-31, and Figure 1 of Lau et al. for reference to a router 10, which is a node of a telecommunications network, comprising and active MPLS control card 12 and a standby MPLS control card 14, which are redundant processor modules, and for reference to a method of implementing protocol redundancy to maintain the standby card 14 in a hot-standby mode with the active card 12).** Lau et al. also discloses each redundant routing processor including a primary control processor, a run time control processor, a message processor and a distributed layer processor **(See column 5 lines 6-55 and Figure 2 of Lau et al. for reference to the both the active and standby control cards including a MPLS Core LDP and RSVP-TE 118, which is a primary control processor, a policy control module 108, which is a run time control processor, flow classifier 130 IP, forwarder 132 and label forwarder 134, which together act as a message**

processor, and routing manager 122, IP routing database 124, forwarding information base look up table 126, and IP, UDP and TCP 127, which together act as a distributed layer processor). Lau et al. further discloses coordinating operations of the run time control processors, the message processors, and the distributed layer processors, with the primary control processors **(See column 5 lines 6-55 and Figure 2 of Lau et al. for reference to each of the devices 108, 122, 124, 126, 128,130, 132, and 134 being connected to and coordinated through the MPLS Core LAD RSVP-TE 118)**. Lau et al. also discloses allocating resources between the message processors and the distributed layer processors with the run time control processors **(See column 3 lines 54-67, column 5 lines 26-27 and Figure 2 of Lau et al. for reference to the policy control module 108 controlling allocation of resources for devices through the use of a resource reservation protocol)**. Lau et al. further discloses sending only a status affecting message affecting the status from the active module to the inactive module and updating the inactive module in response to the status affecting message **(See column 4 lines 32-54 and column 5 line 56 to column 6 line 7 of Lau et al. for reference to sending update data including connection state data, which is status affecting data, from the active card 12 to the standby card 14 and for reference to the standby card 14 being updating in accordance with the update data to mirror the active card 12)**. Lau et al. also discloses performing an activity switch from the active module to the inactive module to reverse the roles of the modules **(See column 4 lines 32-54 of Lau et al. for reference to, upon failure of the current active card 12, switching the state of the current**

standby card 14 so that card 14 becomes the new active card and card 12 becomes the new standby card).

With respect to claim 10, Lau et al. discloses the newly active module performing an audit of the label switching paths before the activity switch is performed **(See column 4 lines 32-54 for reference to the standby switch 14 receiving initial redundancy data including provision and MPLS state data, and for reference to the standby switch 14 performing an audit by updating its information using the initial redundancy data prior to switching from standby mode to active mode).**

With respect to claim 11, Lau et al. discloses a telecommunications node comprising two routing control cards which are interchangeably maintained as active and inactive at any one time **(See the abstract, column 4 lines 7-31, and Figure 1 of Lau et al. for reference to a router 10, which is a node of a telecommunications network, comprising and active MPLS control card 12 and a standby MPLS control card 14, which are redundant routing control cards, and for reference to the cards 12 and 14 being interchangeably maintained in either active or standby at any one time).** Lau et al. also discloses the cards including a distributed processor running protocols for managing a communications path **(See column 5 lines 6-55 and Figure 2 of Lau et al. for reference to the cards 12 and 14 having routing manager 122, IP routing database 124, forwarding information base look up table 126, and IP, UDP and TCP 127, which together act as a distributed layer processor running layer 3 protocols for managing communication paths).** Lau et al. further discloses the cards including a message processor sending synchronization messages to the other control card in that, while the card is in active mode, all signaling messages are processed and synchronization messages are generated when the status of the path has changed, and, while the card is in inactive mode, receiving the synchronization messes form the other card **(See column 4 lines 32-54, column 5 lines 6-55, and Figure 2 of Lau et al. for reference to the cards 12 and 14 having flow classifier 130 IP, forwarder 132 and label forwarder 134, which together are a message processor, to process messages, generate update data messages, and send the update data messages to the other card when operating in active mode and for reference to the cards 12 and 14 having a message processor to receive the update data messages when operating in inactive mode)**. Lau et al. also discloses allocating resources between the message processors and the distributed layer processors with a run time control processor **(See column 3 lines 54-67, column 5 lines 26-27 and Figure 2 of Lau et al. for reference to policy control module 108, which is a run time control processor controlling allocation of resources for devices through the use of a resource reservation protocol)**. Lau et al. further discloses coordinating operations of the run time control processors, the message processors, and the distributed layer processors, with a primary control processors **(See column 5 lines 6-55 and Figure 2 of Lau et al. for reference to each of the devices 108, 122, 124, 126, 128,130, 132, and 134 being connected to and coordinated through the MPLS Core LAD RSVP-TE 118, which is a primary control processor)**.

With respect to claim 12, Lau et al. discloses that the communication path is a label switched path **(See column 3 lines 32-48 of Lau et al. for reference to using**

MPLS protocol having label switched paths). Lau et al. also discloses the cards having state machines managing the paths and the synchronization messages containing new decisions and forwarding tables **(See column 4 lines 7-15 and column 5 line 56 to column 6 line 7 of Lau et al. for reference to the cards 12 and 14 having state machines that manage paths and update data including new routing table information)**.

With respect to claim 13, Lau et al. discloses the state machines running MPLS protocol **(See column 3 lines 32-48 of Lau et al. for reference to using MPLS protocol)**. Lau et al. also discloses performing an activity switch to reverse the roles of the control cards **(See column 4 lines 32-54 of Lau et al. for reference to, upon failure of the current active card 12, switching the state of the current standby card 14 so that card 14 becomes the new active card and card 12 becomes the new standby card)**.

With respect to claim 14, Lau et al. discloses the synchronization messages including forwarding table entry information **(See column 4 lines 7-15 of Lau et al. for reference to updating routing table information)**.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

> the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al.

With respect to claim 4, Lau et al. does not specifically disclose that status information is affected by setup, modification, and teardown of a connection.

With respect to claim 6, Lau et al. discloses that the processor module is an MPLS processor module using RSVP messages **(See column 5 lines 26-55 and Figure 2 of Lau et al. for reference to the cards 12 and 14 being MPLS cards using RSVP messages)**. Lau et al. does not specifically disclose that status information is affected by setup, modification, and teardown of a connection.

With respect to claims 4 and 6, Although Lau et al. does not specifically disclose that status information is affected by setup, modification, and teardown of a connection, it would have been obvious to one of ordinary skill in the art at the time of the invention that connection setup, modification, and teardown messages are all messages that affect the status of a connection. Making sure that connection setup, modification, and teardown messages are all synchronized between an active and standby module has the advantage of allowing all current connection information to be held in the standby module to reduce the time needed to switch from the active module to the standby module.

With respect to claim 5, Lau et al. discloses that the connection is a label switched path with the processor performing protocols for managing the label switched path **(See column 3 lines 32-48 of Lau et al. for reference to using MPLS protocol having label switched paths)**.

With respect to claim 7, Lau et al. discloses that refresh messages are filtered **(See column 5 line 56 to column 6 line 7 of Lau et al. for reference to filtering timing event messages, which are refresh messages)**.

With respect to claim 8, Lau et al. discloses the synchronization messages including forwarding table entry information **(See column 4 lines 7-15 of Lau et al. for reference to updating routing table information)**.

Response to Arguments

6. Applicant's arguments filed 10/1/07 have been fully considered but they are not persuasive.

In response to Applicant's argument that Lau et al. does not disclose the newly added claim limitations, the Examiner respectfully disagrees. As shown in the rejections above, Lau et al. does disclose devices that are equivalent to the claimed primary control processor, run time control processor, message processor and distributed layer processor. Therefor, since Lau et al. does disclose each of these devices performing the corresponding claimed functions, Lau et al. discloses all the limitations of the amended independent claims 1, 9, and 11.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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